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## THE MYSTERY OF SLEEP.

TWELVE hundred millions of dreams make a network of wild fancies nightly about our planet. To go, if it were possible, through this world of sleep would be a stranger process than that of exploring the whole waking-world; for in sleep every living being is a poet, from the baby that clings in its dreams to the breasts of goddesses, to the centenarian who, with staff and spectacles, hobblest about paradise at the heels of seraphs. Sleeping and waking are the two great phenomena of our existence. What is done and thought in the everyday working-world, where the ordinary business of life is carried on, no living creature has ever fully revealed to another. There are reticences in the confessions of the most frank, things which cannot, and therefore which never will be spoken—thoughts which transcend the limits of language—hopes which the power of no fairy could satisfy—fears which even Lucifer himself would fail to exaggerate. If this portion of our life, which is at least subjected to our own observation, cannot be faithfully and fully described, still less can that other portion which defies even our own scrutiny, converts us into mere spectators of ourselves, sets free our actions from the control of our will, and transforms us into so many passive spokes in the great wheel of destiny. Whatever may be the laws by which it is regulated, sleep presents the counterpart of the waking-world—distorted, mutilated, thrown into irremediable confusion by the force of the imagination.

How sleep comes over him, every man may observe, if he will be at the pains—and it requires pains—since the drowsy state which precedes the complete absorption of our faculties is inimical to observation. If you make the experiment with your windows open on a summer night, you may notice a curious succession of emotions and sensations in your mind and frame, produced by the softly-approaching footsteps of sleep. You are lulled almost into forgetfulness, when the bark of a dog, the crowing of a cock, the grinding wheels of some passing vehicle, or the shout of a drunkard

returning from his orgies, frights away for a moment the gentle influences of slumber. If you then take notice of your condition, you will become sensible that your heart, which had been soothed and rocked into a sweet tranquillity, experiences a slight but painful shock, accompanied by a transient agitation. At the same moment, the curtain, alive all over with strange imagery, which sleep had begun to let down before the retina of your inner sight, is sharply drawn up, though not so sharply but that you may discern what it represents, as it slides upwards like a film into some dark sheath concealed in the intricate mechanism of your brain. I have noticed this process several times, though not so many times as to justify me in using the word often.

The physiologist assassinated in a bath by Charlotte Corday, wrote, before the beginning of the Revolution, an extremely curious book on Man, which is scarce and little read now. The copy I possess was found in a prisoner's cell during the pillaging of the Bastile in the month of July 1789. This strange man—at least when he wrote his book—may be presumed to have enjoyed sweet sleep, since in discussing its nature and phenomena he obviously speaks from experience. ‘At the approach of Morpheus,’ he says, ‘the force of our activity is diminished; our fatigued limbs yield to lassitude, and sink under their own weight; the head drops gradually upon the shoulder; a sentiment of tranquil delight pervades the frame; and it seems as if our blood paced through our veins with a more peaceful flow. Our senses have already ceased to act, though none of them has altogether lost its power; little by little, consciousness deserts its post, the eyes are closed by the soft fingers of slumber, a delicious calm reigns through the whole frame; even the soul is steeped in an inexpressible serenity, forgetting everything, forgetting itself, and seems to lose itself imperceptibly in insensibility.’ To bring about this desirable state of things, which will not always come at our bidding, men have had recourse to various contrivances. Bacon, before retiring at night, used to indulge himself with a posset of strong ale, which

helped better than wine to subdue the sprightly activity of his fancy, which would otherwise have resisted the force of sleep ; Harvey, who taught his contemporaries the old Greek discovery of the circulation of the blood, used, like Franklin, to induce somnolence by getting out of bed, and walking about his chamber in his shirt, till half congealed, after which the warmth of the blankets was welcome, and soon induced slumber. Other persons afflicted with wakefulness call the bards to their aid, and compel the presence of Death's half-brother by the magic of potent verse. The best plan is, when health and the supply of animal spirits will allow, to determine not to go to sleep at all, but to draw up the blinds, and look out, if it be a clear night, at the stars, endeavouring to divine whither they and we are travelling through the infinite gulfs of space. This pious exercise gradually subdues, if anything can, the perturbations of the mind, and brings on, as if against our will, the tranquillity we covet.

Some have contended that grief and sorrow are things inimical to sleep, which cannot, they imagine, repose under the same roof with such guests. Thus, Young :

Sleep on his downy pinions flies from woe,  
To light on lids unsullied by a tear.

But this is inconsistent with experience : deep grief and protracted sorrow almost inevitably cause sleep, by exhausting the animal spirits, and producing a collapse in the nervous system. Children and women often sob themselves to sleep. Tears are, in fact, soporific ; for, by deserting the well-springs where they are generated in the brain, they render flaccid the thinking apparatus, and occasion a mental weariness, which is followed at the next step by oblivion. Care, anxiety, and remorse are, on the other hand, altogether hostile to this innocent nourisher of life. To know what a human being is, and has been, you should steal upon him or her, when, by whatever preliminaries, long or short, agonising or delightful, the total absorption of the senses has at length been brought about. It is affirmed by many, and may be true, that the course of life is left stamped indelibly upon the features after death. It is certainly so stamped in sleep. In the court of the Roman emperors, men habitually wore, through fear, what was aptly termed a *jussus vultus*, or countenance at command. The same is the case, more or less, at all times and everywhere. Few would be willing to seem what they are ; the majority need a mask, and are at pains to put it on every morning, to delude their fellow-creatures when they come into their presence. None but those who think themselves good enough to be contemplated by gods or men in their true lineaments and proportions, omit this precaution, and they are commonly hated for their intrepidity. But all put off the mask in sleep, though in most cases sorely against their will. Even in earliest infancy, the character, to a discerning eye, begins to loom above the horizon. In some, whether young or old, there is, during sleep,

a grace, an *abandon*, a serene contentment, a placid absence of anxiety, all betokening innocence of life and purpose. Painful reserves reveal their existence in the small muscles about the corners of the mouth, which, being pinched and drawn tight during the day, as if to keep back by physical exertion the confessions always ready to escape, fail to relax even in sleep, and give to the countenance a hard, repelling aspect. To gaze at such a face when unprotected by its habitual disguise, is in a high degree humiliating and painful ; the idiosyncrasy of the consciousness concealed beneath that screen of skin, muscles, and sinews, you do not, and perhaps never can know ; but you may be sure that if you did, you would not be rendered happier by the discovery. On the other hand, there are faces which in sleep look like a vision of paradise—not for their beauty, not for their youth, but for something internal, far transcending both, which sleep reveals in all its power for the delight of those who observe. Everybody knows the language of the features, which does not cease to speak because the possessor ceases to be waking. There are innumerable minute muscles in the tissue of the lips, the slightest movement of any one of which changes the expression of the countenance ; and so throughout the face. When all is serene, the meaning conveyed by the whole is merely that of sweet repose ; but when the imagination is at work within, creating, arranging, painting, shifting its scenery and characters, slight evanescent indications become visible without ; smiles, tremors of the lips or eyelids, blushes, tears, which roll down the cheeks like molten sorrow, raise in part the curtain from the soul, and shew what it is enjoying or suffering at the moment. What ideas are, no man has explained, still less can we reveal how they affect or act upon each other. Perhaps they are strictly affiliated from birth to death in one unbroken chain, which, waking or sleeping, runs through our whole being, or rather constitutes it, for, except as to the mere shell, we are nothing but a series of ideas and emotions. Like rivers which run partly above, partly under ground, our life is alternately visible and concealed when it moves through the sunshine, or through the caverns of sleep.

Few have endeavoured to follow the soul in its retirement, to note what it then does, thinks, or speaks. That it is powerful, that it is eloquent, that it is poetical then, if at no other time, has been demonstrated by many examples. But the waking and the sleeping soul are identical ; what the latter does when freed from all fetters, the former would do if it dared. The character cannot be put off, like a change of raiment, when we step from one condition of existence into the other ; our virtues, our vices, our passions, our aspirations cling to us sleeping or waking. The greatest writers have paid most attention to the visions of the night, ‘when deep sleep falleth upon man.’ Shakspeare is rich in descriptions of the avenues to the palace of dreams, sometimes paved with horror, and overshadowed by shapes of agony

and dread. Listen to the murderer-king, as he reveals, from his dreamless couch, his cravings for the solace of forgetfulness :

How many thousands of my poorest subjects  
Are at this hour asleep ! O Sleep, gentle Sleep,  
Nature's soft nurse, how have I frightened thee,  
That thou no more wilt weigh my eyelids down,  
And steep my senses in forgetfulness ?  
Why rather, Sleep, liest thou in smoky cribs,  
Upon uneasy pallets stretching thee,  
And hushed with buzzing night-dies to thy slumber,  
Than in the perfumed chambers of the great ?

Sleep, however, has no objections to the buzzing of night-flies, to smoky cabins, or to hard pallets, provided he can lay his head on the soft pillow of a clear conscience. The inmates of the smoky cabins might not have butchered their cousins by treachery, might not have put strangers to death without law or justice, might not have indented the peaceful plains of their country with the hoofs of hostile steeds, as the regal criminal to whom sleep refused to come had done. What frightened away the gentle god was the howl of the hell-hounds that attend on guilt, the Erinyes, as Shakspeare himself calls her, that tracks the blood-spiller to his grave. Well might he wail and lament as one with whom 'nature's sweet restorer' refused to abide. To him, with more justice than to the lover maddened with jealousy, might it be said :

Not poppy, nor mandragora,  
Nor all the drowsy syrups of the world,  
Shall ever medicine thee to that sweet sleep  
Which thou ow'dst yesterday.

Pallets hard or soft have not much to do with the slumbers that visit those who lie upon them. I have enjoyed the sweetest of sweet sleeps stretched on pease-haulm in a cow-house ; on a stone floor in a caravansarai, with five thousand armed enemies prowling about on the outside ; on horseback in a dark night on the edge of precipices ; and exclaimed with Sancho : 'Blessed be the man that invented sleep ! It wrappeth a man about like a garment !' Yet place occasionally enhances the delight of the sleeper, by aiding to paint his dreams with brilliant or delicate colours, and soothe the ear of his fancy with the sound of loving voices. Once, far up in the Nile, on a little mammillated sandbank, I tasted sleep in its sweetest, richest, most fascinating and gorgeous habit, down beyond the Sahara. The sun had sunk, leaving in the heavens long trails of glory—a mixture of sapphire and blood-red vapour, with saffron, amethyst, and beryl. All day the thermometer had stood at 100° in the shade, but so tempered by refreshing winds from the west, that it seemed then only to have reached pleasure-point. There was a languor in the atmosphere, filled with the dozy, drowsy hum of insects, rendered doubly slumberous by the low, rippling murmur of the great river, as it glided past towards the northern tropic. These influences subdued the mind to a pleasing melancholy, so that I passed out of the waking into the sleeping world with delicious unconsciousness. Without being too profound in the metaphysics of dreams, I yet venture to believe that the testimony of the senses enters largely into their structure ; colours borrowed from the skies and landscapes around, the figures of palm-trees, the masses of rock, the lake-like breadth of waters, camels, horses, buffaloes, thrown confusedly together by the kaleidoscopic power of fancy, converted my dream on the

sandy island into a reflection of paradise. Nevertheless, when the curtain first dropped between me and the outer world, I found myself, not on a tropical river, but in my mother's garden in England, over which tropical skies expanded, tropical vegetation beautified, the banana, the mimosa, and the doum-palm. Long rows of beehives, with clusters of insects entering or quitting them, stretched beside the hedges ; flowers of brilliant hues sent forth from their tiny bells the hum of their plunderers ; while my mother, in the attire of her bright youth, led me hither and thither by the hand as a little child. Suddenly, the sky became clouded ; a deep, prolonged wail assailed the sense of hearing ; the whole landscape shivered and broke up, and I woke abruptly, with the dismal howl of a troop of jackals in my ears. They were sweeping northward after some fleet prey, probably a light gazelle ; and in a few minutes the sound died away in the distance. Calm and stillness then returned, and brooded over the whole scene. Never did earth appear more beautiful than at that moment, overhung by hosts of stars and constellations, large, liquid, flashing rather than twinkling in the dark-blue vault of infinite space. It was on such a night as that I felt sure that some antique Egyptian priest, meditating, perhaps, on that very island, persuaded himself that the voice he heard on both sides of him was the voice of a god—of Osiris himself. From the whole expanded surface of the rippling waves it ascended musically and solemnly into the dusky air, where, mingling with the lisings of the breeze, it produced a delicious concert. At no great distance, in a grove of palms, sang the nightingale, not sullenly or sadly, as poets feign, but with a rich, full gush of joy. Was that also a dream ? It may have been, for at no other time did I hear the nightingale in tropical Africa. About Cairo, her song is common, where, as she perches among cypresses, surrounded by mortuary cupolas, her notes undoubtedly sound like a lament for the dead.

Physiologists admit—and if they did not, it would not be the less indisputable—that the mind is not entirely separated from the senses in sleep. To demonstrate this fact, numerous experiments have at various times been made. The difficulty in such cases is to insure a report strictly conformable to truth, without additions, without abatement, without colouring—in short, an exact photograph of the dream. Shakspeare alludes to this sort of practical philosophy, and puts forth his subtle theory under show of describing the pranks of Queen Mab. His exposition is lively, and not without a dash of satire, but exquisitely true to nature. The predominant sense being out of the question, the experiment has to be made with the other four, and first with hearing. A gentle sleeper in full health, youth, and animal spirits, has been set to sleep during summer in a chamber opening upon a garden, at the extreme end of which a skilful person has played soft music late in the night. The sleeper, describing her sensations, said she at first appeared to be plunged into a world of bright clouds, which folded her round, exciting sentiments of strong delight. Then she descended upon a bank of violets while voices of exquisite harmony filled the air. Being watched by the light of a dim lamp, the sleeper's face at this time seemed pale with emotion, and presently, as the music became more and more sad, tears appeared between the eyelashes, and gradually trickled

down the cheeks. Had the sounds ceased, the lady would have awaked at once; to prevent which, a transition was skilfully made to a lively air, which in a short time brought smiles upon the lips. No memory is sufficiently tenacious to record without breaks or stops the multitudinous evolutions of a dream. The sleeper, who was not a mother, said she dreamed she was shedding tears because persons were forcing away from her a baby which she had at her breast; when suddenly the scene changed, and she found herself in a vast saloon, encircled by singers and dancers, sometimes eating grapes or pomegranates, drinking wine, and laughing merrily. One or two strokes of martial music striking violently upon the sensorium, awoke the sleeper at once.

In Shakespeare, we find a curious record of a wife's observations on the countenance of her sleeping husband. The passage may at first sight be thought too prolix and minute; but as many persons do in exciting circumstances talk in their sleep, the statement is not inconsistent with nature. The speaker is Lady Percy, and the time immediately before the breaking out of Northumberland's rebellion against Henry IV.

In thy faint slumbers I by thee have watched,  
And heard thee murmur tales of iron wars;  
Speak terms of manly to thy bounding steed;  
Cry, Courage!—to the field! And thou hast  
talked  
Of sallies and retires; of trenches, tents;  
Of palisadoes, frontiers, parapets;  
Of basilisks, of cannon, culverin;  
Of prisoners' ransom, and of soldiers slain,  
And all the current of a heady fight.  
Thy spirit within thee hath been so at war,  
And thus hath so bestirred thee in thy sleep,  
That beads of sweat have stood upon thy brow  
Like bubbles in a late disturbed stream;  
And in thy face strange motions have appeared,  
Such as we see when men restrain their breath  
On some great sudden haste. O, what portents are  
these?  
Some heavy business hath my lord in hand,  
And I must know it, else he loves me not.

This obviously is not a mere fanciful description, but a record of the accurate study of a sleeping face. Elsewhere, in a more sportive and sarcastic mood, he suggests what would probably be the effects of touching at various points the persons of sleepers. To Queen Mab is delegated the task of awakening by the delicate pressure of her wand the imaginations of slumber's prisoners; though she is likewise represented as driving bodily in her carriage through the halls of fancy:

Her chariot is an empty hazel-nut,  
Made by the joiner squirrel, or old grub,  
Time out of mind the fairies' coach-makers;  
And in this state she gallops night by night  
Through lovers' brains, and then they dream of love;  
On courtiers' knees, that dream on courtseys  
straight;  
O'er lawyers' fingers, who straight dream on fees;  
O'er ladies' lips, who straight on kisses dream.

As is implied by the various portions of this speech, the passions are the great fountains of dreams—love, pride, ambition, which exert their magic power in sleep, calling up forms of beauty, placing the individual in elevated situations, or soothing him with the exercise of power. Milton's most exquisite sonnet is based on a dream of love and sorrow:

Methought I saw my late espoused saint,  
Come to me like Alcestis from the grave.

And throughout the poetry of the world, we find scattered here and there pictures or fragments from the land of dreams, more lovely than any the material world could supply.

Nevertheless, sleep is no flatterer, but gives to every man a compound of the acquisitions he has been at the pains of making, and a keen consciousness of the result of the actions which he has been in the habit of performing. But though, in the base and malignant, nature hangs out during slumber a flag to warn all whom it may concern that snakes and aspies are coiled secretly within, her revelations go no further. No one can step within the curtain which conceals the delights or the agonies that come to the happy or to the unhappy man in sleep. Byron used to say he should like to know how a man felt who had committed a murder—a point upon which some of his ancestors could have enlightened him. The feelings in that case would greatly depend on the part of the world and the state of the society in which the murderer might live; for there are regions in which, when one has killed and eaten his victim, he rests as comfortably as if he had supped on mutton; while there are others in which he would never again find a moment's peace, but, waking or sleeping, be hunted by remorse to his grave. It is a common belief that, in sleep, fancy and imagination wake, while reason slumbers; in which case, many persons may be said to pass their whole lives in a dream.

Goethe used to discuss with the physiologist Müller the phenomena of sleep and dreams, but could come no nearer their substance and structure than the philosophers of past times; nor will discoveries be made unless through a long series of experiments on food, drink, dress, habits, air, water, and situation, in connection with sleep. Others have remarked that there are wine-dreams, spirit-dreams, and beer-dreams; and it may be mentioned with equal truth, that there are dreams of the mountains and dreams of the plains. If you sleep on the Alps, and observe the phenomena which attend it, you will find that they differ according to the scale of elevation, and are even modified by being on the north or south of the chain. If your chamber be about five or six thousand feet above the level of the sea, it is highly probable that you will experience a delicious feeling; the heart will seem light and buoyant; a gentle thrill of pleasure will pass through the whole frame; the brain seems steeped in ambrosia, and you will sink into forgetfulness through layers, as it were, of exquisite enjoyment. Even on the summit of the passes, at an elevation of eight or nine thousand feet, little difference in the state of your sensations is perceptible; but on the Andes and Himalaya, if you ascend much above the level of Mont Blanc, the lungs labour with the thin air, and small blood-vessels are apt to start. Sleep is then disturbed beyond description, haunted by dreadful phantoms, and scarcely at all refreshing. It is still worse in places like Rome, where malaria prevails. The miasma then appears to feed upon the flame of life, diminishing its force imperceptibly, sapping the energies of the frame, rendering the mind dull and spiritless, and descending like a nightmare on the soul in dreams, indescribably loathsome and depressing. An Italian general, talking on this subject, used a very strong expression. A night, he said, passed in the Pontine

Marshes, or in the Maremma, is hell. When a fugitive, previous to escaping into lifelong exile, he had tried it often, and it made so terrible an impression on his memory, that it might almost be said to have haunted him like a Fury through life, towards the close of which it urged him to seek, by the fumes of ardent spirits, to subdue the enemy in his brain. It is equally true that pleasant odours refresh the sleeping brain, playing with its fancies, and shaping them into scenes of extraordinary beauty.

### MIRK ABBEY.

#### CHAPTER VII.—A BROKEN FRIENDSHIP.

WEEKS and months have passed by at Mirk Abbey; the snow has thawed, and the cold winds of March have done their worst, and the spring is clothing nature's nakedness with garments of green. Yet all this time, my Lady, who is so fond of outdoor exercise, even in rough weather, and such a constant visitor of the poor, has never been seen beyond the Park gates. To be sure, she has had more to keep her within than usual, for the captain not only got his leave prolonged at the beginning of the year, but came home for three weeks very shortly after, and is at Mirk again at the present time. Miss Rose Aynton, too, a very nice young lady, and most attentive to her hostess, seems to have become quite a resident at the Abbey, for, with the exception of a week's absence in London, she has remained there since Christmas, her departure having indeed been vaguely fixed more than once, but only to be as indefinitely postponed. It is now understood that she will certainly stay over the festivities attendant upon Sir Richard's coming of age in June. The baronet himself, who, his detractors say, always prefers the country, where he is somebody, to town, where baronets are plentiful, has scarcely been away at all. He writes to inquiring friends in London, most of whom happen to have marriageable daughters, that he is immersed in business connected with the estate, and cannot leave Mirk at present. Mr Rinkel, the agent, however, has seen no cause to relax his ordinary exertions, in consequence of this new-born application of the young gentleman to his own affairs; and Walter wickedly asserts that his brother is in reality occupied with no other business whatever, save that of keeping the man Derrick from trespassing upon the Abbey lands. He is very glad, he says, that Richard has at last found an object in life, and hopes that, like the French sportsman's woodcock, it will last him for a good long time.

It does not help to heal the breach between the brothers that Walter and this same man have grown very intimate, a fact which Sir Richard (assuming to himself a metaphor usually applied only to Providence) stigmatises as 'flying in his face.' His mother, however, declines to take this view of it—declines even to express an opinion about it one way or another, and avoids the subject as much as she can. Even with the confidential maid, notwithstanding her decision about Mr Derrick's ineligibility as a suitor, she forbears to reason with respect to this matter, although it is understood that the forbidden swain is gaining ground in the affections of Mistress Forest. There is but one person to whom my Lady has opened her lips concerning the man she dimly saw by lantern-light on Christmas Eve,

and has never seen since. Her confidant—if one can be called so to whom so little was confided—is Mr Arthur Haldane, the only son of the doctor, and one who has been a great favourite with Lady Lisgard from his youth up, not for his own sake merely, although he is honest and kind, and very winning with those who look beyond externals (for he is not good-looking, or at least does not appear so by contrast with her own handsome sons), but for another reason: my Lady owed him a reparation of love for a wrong that she had inadvertently done his father.

Dr Haldane and the late Sir Robert had been at school together, and their boy-friendship had lasted, as it seldom does, through their university course. Their mutual esteem had not afterwards suffered by propinquity, when they came to pass their days within a few hundred yards of one another; and when my Lady married, she found that the dearest friend her husband had on earth was Dr Haldane. She was not the woman to come between her husband's friends and himself; and the doctor (who had had his doubts about the matter before he came to know her) was wont to declare the Abbey was even more of a second home to him than it used to be, now that his old friend had placed so charming a mistress at the head of it. He was always welcome there, and being himself a widower, was glad to take advantage of Sir Robert's hospitality whenever he could; a knife and fork were laid for him at table all the year round; and when he did not appear at the dinner-hour, either husband or wife was sure to observe: 'I am afraid we shall not see the doctor with us to-day.' It would have seemed as though nothing short of death could have interrupted such cordiality as this.

But in those days there was such a thing as Politics. The baronet was a Tory, and his friend a Whig of what was afterwards called 'advanced opinions.' They bickered over their wine three nights out of every seven, though they never failed to drink each other's healths before they sought the company of the hostess. These political discussions (unfortunately, as it turned out) were scrupulously confined to the dining-room, so that my Lady had no idea of the strength of the respective prejudices of the combatants, and of the severity of the trial to which their friendship was so often subjected. Brought up as she had been among persons in humble life, who were engaged in bread-winning (a very monopolising occupation), and educated in France, where the question of English reform was never mooted, she knew little or nothing of the matters which formed the subjects of dispute, although they were setting half England together by the ears. It seems strange to read of now, but the idol which Toryism had set up to worship at that epoch was a heartless and vulgar fop, whom it sycophantically dubbed the First Gentleman in Europe; while the Whigs pinned their faith upon the virtue of his wife, a woman as vulgar as himself, and whom her enemies endeavoured to shew was almost as vicious. Over this good-for-nothing pair, Lords, Commons, and People were quarrelling together, like a mob at a dog-fight, and the public press was solely occupied with hounding them on. To dip into a newspaper of that date is to make an excursion to Billingsgate, for both parties, equally unable to whitewash their candidate, confined themselves to vilifying their opponent.

When the report upon the bill of Pains and Penalties against Queen Caroline was finally approved by a majority of nine only, and those nine representing the votes of the ministers themselves, the popular excitement culminated. The Whigs decreed that there should be illuminations throughout the kingdom, and (what seems hard) that their adversaries should express the same satisfaction in a similar manner. For three consecutive nights, the Londoners made plain the innocence of their queen, so far as pyrotechnics and oil-lamps could do it; and for one night, the country was expected to do the like. Vast mobs paraded the streets of the provincial towns, to see that this was done, and even made excursions to the country-houses of the Disaffected. Among others, Mirk Abbey was threatened with a visitation of this sort; and I must confess that the doctor rather chuckled over the notion, that the stubborn Sir Robert, who had called his sovereign lady so many opprobrious epithets, would have to dedicate his candles to her, as though she were his patron saint. The baronet, on his part, protested that every window in his house should be broken rather than exhibit so much as a farthing dip; but he said nothing to his wife about the matter, lest it should make her nervous.

They happened to be engaged to pass that November week at a friend's house in the country, and left home accordingly. The gentleman with whom they stayed himself suffered some inconvenience from the rioters on the night in question; and when Sir Robert came back, he was even less inclined to be a convert to his Whig friend's opinions than before.

'But you *did* illuminate,' said the doctor with a chuckle, as they sat together after dinner, as usual, upon the day of his return.

'I did nothing of the kind, sir,' returned the baronet angrily.

'Well, your servants did it for you, then, and I presume by your orders. Mr Brougham himself could not have exhibited his patriotism more significantly. The Abbey was a blaze of light from basement to garret.'

'That is a lie!' cried Sir Robert, making the glasses jump with the force with which he brought his fist down upon the table.

'A what?' exclaimed the doctor, rising from the table livid with rage. 'Do you, then, call me a liar?'

'Yes,' thundered the baronet; 'like all your radical crew.'

The two men that had so long been nearer and dearer to each other than brothers never again interchanged one word.

Dr Haldane left the Abbey, solemnly protesting that he would never cross its threshold again during the lifetime of its owner; and he kept his determination even in the hour when his old friend lay a-dying.

Now, poor Lady Lisgard was the person to blame for all this. Before Sir Robert and she had set out on their visit, the housekeeper had told her that everybody was going to illuminate their houses on the 12th, on account of what had happened in London with respect to Queen Caroline; and she was afraid that if some sign of rejoicing was not shewn at the Abbey, the mob would do some damage. A candle in each of the windows would save a hundred pounds of mischief belike. 'Well, then, put a candle,' said

my Lady, not dreaming that by that simple order she was wounding her husband in his most vital point, his pride, and making a sacrifice of principles that he held only second to those of the Christian Religion. She did not even think it necessary to tell him that she had left this command behind her; but when she heard him praise the determination of the friend with whom they stayed, not to submit to the dictation of the rabble, she had not the heart to tell him of the mistake she had committed, and which it was by that time too late to remedy. That mistake, and, still more, her unfortunate reticence, had caused the quarrel, destined never to be healed, betwixt her husband and his friend. They both forgave her, but she could not forgive herself. It seemed to her that she could never do enough to shew how sorry she was for her grievous fault. We have said how she made up so far as was in her power, in love and duty to Sir Robert, for the loss of his friend; but to that friend himself, self-exiled from her roof, and out of the reach, as it were, of reparation, how was she to atone for the wrong she had inadvertently done him? When the quarrel first took place, the doctor's wrath was quite unquenchable; he would listen to nothing except an apology—a debt which Sir Robert (although he certainly owed it) most resolutely refused to pay. The doctor, who had hitherto confined his Whiggism to after-dinner eloquence, and coarse but biting epigrams, which had earned him the reputation of a philosopher with those of his own party, thereupon became an active political partisan, and not only voted at election-time, but canvassed with might and main against the Lisgard interest; nay, he even composed, as we have ventured to hint, satirical ballads against the paternal rule of that respectable family.

But although neither sex nor age was spared in those savage days, not one word did the vengeful doctor breathe about my Lady; nay, it was on record that when some too uncompromising apostle of Liberty had reflected upon her humble extraction in the presence of that friend estranged, he had risen to his full height of five feet eight, and levelled the slanderer to the earth. Perhaps my Lady did not esteem him the less upon that account; but certain it was that the first visit she paid after Sir Robert's death was to the doctor's house, taking with her, it was said, from her husband's dying lips a message of affectionate reconciliation. The baronet had never brought himself to alter the words in his will by which he had appointed his tried and loving friend, Bartholomew Haldane, trustee for his children; and of course the doctor accepted his trust. He never could be induced to visit the Abbey, although his oath no longer forbade it; but the Lisgard children were his constant guests, and his only son, Arthur Haldane, was as another brother to them, and almost as another son to my Lady. His nature was grave and serious, like Sir Richard's, but very tender withal, and she felt that she could confide in him what she could not have confided to the rigid young baronet, although he was her own flesh and blood; nevertheless, or perhaps for that very reason, when she took Arthur's arm that April morning, upon pretence of shewing him some alterations that were proposed to be made at a place in the Abbey-grounds called the 'Watersmeet,' she thought it necessary to preface what she was going to say to him with an explanation.

'My dear Arthur,' said she, when they had got out of view of the house, 'you will think it cruel that I have brought you away from the society of that charming young lady, Miss Aynton, to chat with an old woman like me, who have boys of my own to take counsel with; but the fact is, I have inveigled you hither to get an opinion from you which I could scarcely ask of your learned brother.'

This was conferring a brevet rank upon Sir Richard, who had not yet been called to the Bar, although he was reading for it; while Arthur had been in practice for some years.

'My dear Lady Lisgard,' returned the other smiling, 'I must, for my professional credit's sake, enter my protest against what you say about Miss Aynton, as irrelevant, and travelling out of the record, but besides that, it is a delusion which I should be sorry to see you entertain. Miss Aynton is nothing whatever to me; although, indeed, if she were, I would rather chat with you than with any young lady (save one) in Christendom.'

The young barrister's tone was so unnecessarily earnest and impressive, that one so acute as Lady Lisgard could scarcely have failed to see that he courted inquiry concerning such excess of zeal. She either saw it not, however, or refused to see it; and he was far too delicate by nature to press it upon her attention. 'And now, *ma mère*,' continued he, taking her hand in his affectionately, 'in what way can I be of use to you?'

'By your good sense, and by your good feeling, Arthur. I need the aid of your talents and your virtues, too, dear boy; I want your best advice, and then your promise that you will never disclose that I have asked it.'

'You shall have both those, *ma mère*. As the pashas say to the sultan when there is nothing to fear: "I bring you my head;" as for my heart—that has been devoted to you these many years.'

#### CHAPTER VIII.—AT THE WATERSMEET.

Lady Lisgard and her young friend had by this time arrived at the Watersmeet, a lovely spot, where the river branched into two streams, the one still pursuing its course through the Lisgard property, and the other escaping under a sort of swing palisade—which prevented the passage of boats—into public life. The way had lain for some time along a broad beech-walk, paved with an exquisite checker-work of light and shade; but they now came upon an open spot on which a rustic bench was placed for those who would admire at leisure what was called the home-view. The prospect from this seat was remarkable, since it took in all that was best worth seeing at Mirk, without laying under contribution anything, with the exception of the church, that was not the property of the family. Two sides of the Abbey, an irregular but very picturesque structure, could from here be seen, at a distance not so great as to lose the bolder features of the architecture, or to mass the ivy which Time had hung about the southern front; the sloping lawn, with its marble fountain, and alcove of trellis-work, which the spring-time had but sparingly clothed with leaf; the boat-house, with its carved and gilded roof—all these, backed by a living wall of stately woods, made up a charming picture. The Park lay across the stream, which, although both broad and deep, was only used by pleasure-boats; and above the one-arched bridge which linked it with the hither

bank beyond the lawn, stood up the gray church tower. Gazing upon this view, not as one who had seen it a thousand times before, and might behold it as often again, but with eyes that had a strange yearning and regret in them, Lady Lisgard thus addressed her companion.

'I want to speak to you about my Walter, Arthur. A mother, alas! cannot know her son as his friend knows him; and you, I believe, are Walter's truest friend'—

'One moment, Lady Lisgard,' interrupted the young man gravely; 'everybody is Walter's friend, but some are his flatterers. I must tell you at once that he is displeased with me at present because I am not one of those.'

'Yes; you have warned him of some danger, and he is piqued because he thinks that is treating him as a child.'

'Since you know that, *ma mère*, you know all that is necessary to be said. Go on.'

'What is the bond, Arthur, that links my Walter to this person Derrick? I pray you, do not hesitate to tell me. There is more depends upon your answer than you can possibly guess.'

'Really, Lady Lisgard,' returned the young man hesitatingly, 'you ask a difficult thing, and, in truth, a delicate. There are some things, as you say, which a son does not tell his mother, and far less wishes to have told to her by another. Women and men take such different views of the same matter. If men are vicious—which I do not deny—in their love of horse-racing, for instance, women reprobate it in an exaggerated way.'

'Horse-racing!' murmured Lady Lisgard, clasping her hands. 'Does my Walter bet? Is he a gambler?'

'I did not say that,' answered the young man with irritation. 'If you insist upon making me a tale-bearer, Lady Lisgard, do not at least heighten the colour of my scandals.'

'I beg your pardon, Arthur; I was wrong. Perhaps this eagerness to suspect the worst is the cause of that distrust which the young entertainer of the old. And yet he might have told me all, and been sure of forgiveness.'

'Doubtless, *ma mère*; but then we don't tell our mothers all. Now, pray, be reasonable, and assure yourself that Walter is no worse than other young men, because he makes up a book upon the Derby.'

'You do not do so, Arthur. Why should Walter?'

'I do not, *ma mère*, because my taste does not lie in that direction. My vices—and I have plenty—are of another sort. I unsettle my mind with heterodox publications. I entertain opinions which are subversive of the principles of good government as believed in by your Ladyship's family. You know in what sort of faith I have been brought up. Moreover, I live in town among a slow, hard-working set, who have neither time nor inclination for going to race-courses; and, indeed, I am now getting a little practice at the bar myself. If I were a handsome young swell in a regiment of Light Dragoons, then, instead of publishing that amusing work upon the *Law of Entail*, which, with a totally inexcusable pang, I saw lying upon your library-table to-day *uncut*, I should without doubt be making a betting-book. Having no call towards that sort of employment, however, I am very severe upon it. I term it waste of time, loss of money, &c.; and in the case of your son, I have even been

so foolish as to remonstrate with him on that very account—an interference which, I fear, has cost me his friendship.'

'Has he lost money through this man Derrick, think you?'

'Not yet, or they would not be upon such good terms. A turf friendship ceases at the first bad bet. The fact is, it was about his intimacy with this drunken fellow that I ventured to speak; it increases the misunderstanding already unhappily existing between your sons; for you know what a dislike Sir Richard has shewn for this person, while for Walter himself I believe him to be a most dangerous acquaintance.'

'Dangerous?' inquired my Lady hurriedly—'how mean you dangerous?'

'He is bad company for any young man, and he has acquaintances who are worse. Walter is "hail-fellow-well-met" with everybody, and may find himself one day so deeply involved with these folks, that extrication may not be easy. He has plenty of wits, and well knows how to take care of himself in a general way; but all his great advantages are useless to him among this particular class. His genial wit, his graceful ways, his tenderness of heart—nay, even his high spirits, all go for nothing with such vulgar good-for-naughts, whom, in my opinion, he will be lucky not to find downright cheats and scoundrels.'

'Is this man Derrick, then,' inquired my Lady, gazing fixedly upon the dark swirling stream, 'irredeemably base and vicious?'

'No, not so,' answered the young man frankly; 'he has the lees of good still left in him, without which, indeed, he would be less harmful. Walter was taken from the first with his openness and candour—which are so great that he seems quite lost to the sense of shame—and with his lavish generosity, which is probably the result of rapid fortune-making. He made five thousand pounds or so, it seems, in a few weeks at gold-digging, and I should think he was in a fair way to spend it in almost as short a period.'

'Perhaps he may have been spoilt by that mode of life,' observed Lady Lisgard pitifully.

'I speak as I find, *ma mère*,' said the young man, shrugging his shoulders. 'It is nothing to us if this man may have been a good boy at one time. You may charitably suppose, if you like, that he has been crossed in love, or unfortunately married—'

Ah! that reminds you, I see, of his *tendresse* for Mistress Forest. Since it moves you so deeply, you must look that matter in the face, Lady Lisgard, and very soon, if you wish to keep Mary. If something about this fellow pleases Walter, you need not wonder that it has fascinated your waiting-maid.'

'Is it this fancy of his, then, think you, which alone keeps him here at Mirk? asked my Lady, who had started for a moment as though stung, but was now once more looking thoughtfully at the river.

'No. Being totally without anchorage in the world, the cable-strand of a partnership in a race-horse at present at Chifney's stables here holds him to the place where he can be near his property. His pecuniary affairs are, as I understand, bound up in that four-footed creature, and beyond them he has nothing to look to. You who have all things settled about you, Lady Lisgard, with home, children, and friends, and from whom so many interests radiate, are doubtless unable to picture

to yourself such a state of things. But if this man should marry Mistress Forest, and still keep his share in Menelaus, I should not be surprised if he were to take up his residence at Mirk altogether.'

'God in his mercy forbid!' ejaculated my Lady, clasping her hands.

'My dear Lady Lisgard!' cried the young man, in alarm at her emotion, 'I am afraid I must have said something very foolish, to have frightened you about this fellow thus. After all, there is no harm done, and I may have been very wrong—as my mind misgives me I have been very officious—in anticipating any harm.'

'No, no,' cried my Lady, rocking herself to and fro; 'your good sense has only told you Truth. Do not—do not forsake me, Arthur. I look to you not only for warning, but for succour. Are you sure that you have told me all? Is there no other reason besides those you have mentioned why this man, having lain in wait, and entrapped my Walter, should sit down before this house, and, as it were, besiege it thus?'

'Well, Lady Lisgard,' returned the young man gravely, 'there is, I fear, another reason; but it is one I am very loath to speak of—Are you cold, *ma mère*? I fear it is too early for this sitting by the river.'

'No, Arthur, I am not cold. Why should you hesitate to tell me anything about this—this stranger?'

'Because, Lady Lisgard, I respect you as though you were indeed my mother—as you have shewn towards me always a mother's love; and this matter in some sort concerns yourself.'

'Myself?' whispered my Lady hoarsely. 'No, not myself, good Arthur. What can there be in common between this man—whom I have never seen—and me?'

'Ay, there it is,' replied the young man quietly. 'It would have been far better had you not shut yourself up, as you have done *these* three months, expressly to avoid this fellow—by that means making him think himself of consequence.'

'Who says I have done that?' asked my Lady vehemently. 'Who dares to say it? Why should I fear him? Why should I think about him well or ill? What is he to me, or I to him?'

'Ay, what indeed, *ma mère*! All this arises from giving ourselves such airs, and carrying matters with so high a hand: you have nothing but Sir Richard's pride to thank for it, to which I must say, in this instance, you have injudiciously, and, most unlike yourself, succumbed. It was a harsh measure, surely, to forbid this man your house, when coming, as you knew he would, upon a lawful errand of courtship; but to serve the landlord of an inn with notice of ejectment if a certain guest should not remove himself—which your eldest son has caused to be done with Steve—is a most monstrous exercise of authority. No wonder this Derrick was greatly irritated; any man so treated would be: but, in the present case, Sir Richard has made the unhappiest mistake. He is dealing with one who is to the full as obstinate as himself; and (what makes the odds overwhelmingly against him) a man entirely reckless and unprincipled. Your son does not understand how any one can be proud who is not a gentleman. Now, this fellow is possessed of a very devil of pride. He is come from an outlying colony, where there is conventional respect for nothing; and where every man does pretty much what is right

in his own eyes. He has been lucky there; raised by a freak of fortune, and not by plodding industry (although he has doubtless worked hard too), to comparative wealth, he is by no means inclined to consider people his superiors. A beggar on horseback if you will, he is still mounted, and may ride in Rotten Row itself if it pleases him. He resents, of course, being thus meddled with; he is one of that class who would deem it a great liberty in the law should it punish his actual transgressions—who would think it hard to be smitten for his faults—but to be interfered with in a harmless avocation, such as love-making, or to be dictated to as to where he is to reside, stirs his bile, I can imagine, pretty considerably. It is my belief that he would have got tired of Mirk and Mary too before this, and wandered off somewhere else, scattering his bank-notes on the way, poor devil, like the hare in a school-boy's paper chase, but for this unfathomable attempt on the part of Sir Richard to curtail his liberties. I am sure, also, that Walter was at first inclined to patronise this man, for the very reason that his brother had exhibited towards him such uncalled-for animosity.'

'This may be all very true,' said my Lady sighing, but at the same time not without a certain air of relief; 'but I cannot understand how it affects me, Arthur.'

'Well, you see, my dear Lady Lisgard, although Sir Richard issues these foolish edicts, it is you who are responsible for them; and I have no doubt this Derrick has been told as much. At least, I hear, that over his cups he has declared he will never leave Mirk till he has had a sight of this Queen of all the Roosias (as he terms you), who holds herself so—Pardon me, *ma mère*; I was wrong to repeat this fellow's impertinence. Heaven help us! Why, my Lady has fainted!'

Arthur Haldane spoke the truth. For the moment, Lady Lisgard's mind was freed from all its anxieties, of whatever nature they might be. The young man sprang down the bank, and dipping his handkerchief in the stream, applied its wet folds to her forehead. Gradual and slow the lifeblood flowed again, and with it thought, although confused and tangled.

'Save me, save my Walter!' murmured she. 'Tell him I will die first. He shall never look upon my face.'

'He never shall, *ma mère*', said the young man soothingly, while he chafed my Lady's stiffened fingers.

'Keep him away!' cried she, endeavouring to rise; 'he is tearing off my wedding-ring. Help! help!'

'No, no, it is not he; it is I, Arthur Haldane—a well-meaning fool, but who has worked a deal of mischief. I have told you all I know, and I wish my tongue had been cut out first. It makes my heart bleed to see you thus distressed.'

'Then give me comfort, Arthur,' groaned my Lady; 'you have warned me well, but what is the use of warning without advice. How shall I make him cease to persecute us? Gold will not buy him. I have heard of such a man, who, being bribed, cried but the more "Give, give;" as the whirlpool swallows ship after ship, and yet gapes for more—for navies.'

'Bribe him? No, Heaven forbid! That, indeed, would be the very way to keep him what he is—to make that chronic which is now, let us hope, but a passing ailment. But I would take care, if I were

you, that nothing further be done to irritate him. He may revenge himself—I only say he *may*—by doing Walter some ill turn. And, above all, you must persuade Mistress Forest to give him his *congé*. If once you get her to say "No," of her own free-will, he will soon tire of haunting the Abbey; while, if his racehorse does not do the great things expected of him—and what racehorse ever did?—he will soon tire of Mirk itself.'

My Lady shook her head.

'Come, *ma mère*, there is no need for despondency about this fellow's going—nor, indeed, for much apprehension if he stays—and, moreover, I really think the matter lies in your own hands; at all events, you have more influence over your waiting-maid than any one else, and my advice is that you speak to her at once.'

'Yes, I will speak to her,' said Lady Lisgard mechanically. 'Thank you, good Arthur, much.' She rose from her seat, and, heaving a deep sigh as she turned from the fair home-scene, was about to saunter to the beech-walk, when the young man laid his hand upon her arm. It was the lightest touch, but, like that of an enchanter's wand, it seemed to remove all trace of selfish trouble, and in its place to evoke the tenderest sympathy for another.

'You wish to speak to me upon your own account, dear boy; and, alas! I know the subject you would choose.'

'Alas, *ma mère*! why alas? I want to talk to you about your Letty.'

'Not now, not now,' cried Lady Lisgard. 'Spare me, dear Arthur, for this time; I feel so unthighed and woe-stricken, I can give you neither "Yea" nor "Nay."'

'I hoped that you would not have thought of "Nay," dear Lady Lisgard,' said the young man pathetically. 'I did not look for the same cruel arguments of difference of station and the like from you as from—others. I shall have a home to offer your daughter such as will be wanting in no comfort, although it may not be one so fair as yonder Abbey. My professional prospects are, I am glad to say—'

'It is not *that*, dear boy,' broke in Lady Lisgard hastily. 'You should know me better than to suppose so, Arthur; yet I cannot, nay, I dare not tell you what it is. It may be you will hear the truth some day, though never from these lips; it may be—I pray Heaven for that—that you will never need to hear it. But for the present, press me for no reply; for when you ask to be my daughter's husband, Arthur Haldane, you know not what you ask.'

'That is what Sir Richard says,' replied the young man bitterly. 'The Lisgards are such an ancient race, their blood so pure, their scutcheon—'

'Spare me, spare me, Arthur!' cried my Lady earnestly. 'Give me only time, and I will do my best. If I have said anything to wound you, ah! forgive it for the sake of those old times, which you may think of some day, boy, not without tears, when I shall be to you but a memory. Think then—whatever's said—"Well, she was always kind to me; and when I wooed her daughter (you will own) she was kind too, although I did not think so then." My Lady's face was hidden in her hands, but through the fair white fingers, as though the diamonds in her rings had started from their sockets, oozed the large tears.'

'Dear Lady Lisgard, good, kind friend, *ma mère*,' exclaimed the young man, deeply moved, 'what sorrow is it which overwhelms you thus? I pray you, let me share it. I am young and strong, and I love you and yours, and there is help in me. Come, let me try.'

'No, Arthur, no,' answered my lady gravely, as she once more arose, and re-entered the beech-walk. 'I must bear my own burden—that is only right and fitting. Heaven knows I am willing to suffer to the uttermost, if I be only permitted to suffer alone. It is when the innocent suffer for us that the burden galls the most. No; you can do nothing for me but keep silence about all that we have spoken of to-day. Not to do so, would be to do me a grievous hurt. You have passed your word, Arthur Haldane—remember that.'

'Yes, *ma mère*,' replied the young man sighing. 'The Haldanes always keep their promises, you know.'

#### 'ANOTHER FIRE IN TOOLEY STREET!'

THERE always is Another Fire in Tooley Street. There is no end of them; they are appealing to public attention continuously. Fires in Tooley Street have become almost an accompaniment of our commerce, a regular institution, a thing to which the newspapers look as affording them tabloid, a phenomenon to which the directors of fire-offices are supposed to be always lending their attention. It is true, the designation is not at times quite correct. Bermondsey would be a better name sometimes; or Dockhead, or St Saviour's Dock, or Shad Thames, or Horsleydown, or Rotherhithe. But it is all one to the west-enders, who know very little about the S.E. postal district, and who very rarely penetrate any part of it beyond the London Bridge Railway Station. They have an indistinct knowledge that Bermondsey is a place for hat-makers and leather-tanners, glue-makers and wool-staplers; but further than this they are silent. To them, Tooley Street is a sort of general name for all the unknown region on the south bank of the Thames, between London Bridge at the one extremity, and, say the Commercial Docks or the Surrey Canal at the other.

And good reason there is, if we knew it all, why the 'devouring element' (as newspaper writers call it) should so often reign supreme in this region. Let the reader ferret out for himself, and he will see what there is to feed the flames there. Passing the Station, which has been in course of building and enlarging for these thirty years, and is not finished yet, we plunge at once into Tooley Street. But Tooley Street, we see, is for the main part a street of shops, not more likely to catch fire, nor more likely to burn quickly when they do catch, than similar houses elsewhere. The little crooked turnings out of Tooley Street, the streets beyond it towards the east, and those between it and the river, are those which contain the warehouses, bonded stores, and wharfs towards which the fire-engines are so often summoned in haste. There are Hay's Lane, and Morgan's Lane, and Mill Lane; there are Fennings Wharf and Topping's Wharf, Chamberlain's Wharf and Cotton's Wharf, Beal's Wharf and Willson's Wharf, Griffin's Wharf and Symond's Wharf, Stanton's Wharf and Phoenix Wharf, Freeman's Wharf and Brook's Wharf; there are Shad Thames and Pickle Herring Street, Horsleydown and Dock

Head, Bermondsey Wall and Mill Street, and other streets and lanes so crooked and narrow, so dark and dirty, that we cannot imagine anything interesting in them except that they are worth millions of money. The timber docks and wharfs are down further east; but the region round about the streets and wharfs above named is crammed with wholesale stores of valuable things to an extent almost incredible. Wherever the owners deign to announce by inscription-board their trade or calling (and they do not always condescend to do this), we find that here is a granary-keeper, there an Irish provision-merchant, then a wharfinger, then an alum-dealer, then a lead-merchant; just at hand are ham-factors, cheese-agents, paper-agents, tarpaulin-dealers, oil and colour merchants, seed and hop dealers, ship-biscuit bakers, shumac-dealers, drug-merchants, sail-makers, tallow-merchants, sack-manufacturers, rice-mills, flour-factors, chicory-manufacturers, and other storekeepers, literally 'too numerous to mention.' Besides the establishments which contain certain definite kinds of merchandise, the general wharfs, as the great commission and deposit warehouses in this part of the world are usually designated, are filled from cellar to roof, over acres of area and in numerous ranges of stories, with goods from every clime under heaven—mostly deposited here until the merchant finds the state of the market suitable for sales, or (in the case of bonded warehouses) until he finds it convenient to pay the customs' duty.

Now, imagine a fire to burst forth in such a district. What a temptation to the flames to lick up all around them! The streets are so narrow in Shad Thames and thereabouts, that galleries run across to connect huge granaries on the one side, with equally huge granaries on the other. The corn in thousands or perhaps millions of bushels parches up, and chars and burns; the flour clogs together, making a hideous kind of dough when the water from the fire-engines mixes with the heat from the flames, and smells like overbaked bread. The cheese in the provision-stores becomes toasted cheese of a most unwelcome kind; the butter melts out of the casks, and the lard out of the skins, and feed the flames; the bacon and ham frizzle in their own fat; the tongues send out an effluvium still more offensive, from having less fat to frizzle in. In the tallow-stores, the white enemy melts out of the casks in such quantity as to form literally pools of tallow in the lower ranges of warehouses, which give forth a body of flame most difficult to deal with. The vast stores of oil and turpentine, of camphine and petroleum, are still more rapid in their destructive propensities. The gunpowder stored thereabouts may possibly not be very large in quantity; but two of the ingredients, saltpetre and sulphur, are in immense store, ready to give forth their thunderous reports and lurid flames on the smallest provocation. The drugs and chemicals, the dyes and colours, are exceedingly numerous in kind; and as many of them are highly inflammable, they do not fail to take their part in the dread display of fireworks, especially as some of them give forth vivid colours, and others brilliant sparks, when burning. The atmosphere is sometimes filled with a strange medley of odours, that would singly, and in other circumstances, be pleasant—coffee, cocoa, chocolate, mace, cinnamon, cloves, nutmegs, perfumes, all burning at once. Then, ginger and pepper, rice and sago, mustard and salt, macaroni and vermicelli,

liquorice, jams, preserves, pickles, sweetmeats, dates, figs, raisins, currants, all tend to produce that strange compound of colours and odours so often noticeable at a Tooley Street fire. We once stood upon a heap of half-charred flour, still hot underneath, with this indescribable conglomerate of smells around us, on the *forty-ninth* day after the breaking out of the greatest of these fires—so long continued is the smouldering of some of the commodities thus heaped up in incalculable quantities.

When Southwark was a pleasant country suburb, to which Londoners were wont to take boat across the water, to see the bull-baiting and bear-baiting at the small theatres thereabouts, there were, of course, no very large stores of merchandise in the Tooley Street (St Olave's Street) district—London north of the Thames being then not too crowded to warehouse its own goods; consequently, the Southwark and Bermondsey fires, in bygone centuries, were not largely associated with warehouses and granaries. There was one in 1212, in the reign of King John, by far the most awful fire ever recorded in the annals of our country, not for the property, but for the human life sacrificed. The fire broke out at the Southwark end of the London Bridge of those days. The bridge had a double row of houses from end to end; and there happened to be some pageant or show, which caused the bridge to be crowded with people at the time. The flames leaped along from one wooden house to another, caught both ends of the bridge, and enclosed a crowd of frightened persons between them. Maddened by the obstacles at both ends, the surging multitude pressed those before them into the very flames, and all was wild horror. 'There came to their aid,' says Stow, 'many ships and vessels, into which the multitude so unadvisedly rushed, that the ships were thereby sunk, and they all perished.' It was said, through the fire and shipwreck, there were destroyed about three thousand persons, whose bodies were found in part or half burned, besides those who were wholly burned to ashes, and could not be found.'

One of the fires which affected the strange jumble of houses on the bridge, rather than those on the south side of the river, was that of 1632 (or, as we should now call it, 1633, for the year began on Lady Day in those times). A maid-servant 'set fire to a tub of hot sea-coal ashes under a pair of stairs' in the house of one Mr Briggs, a needle-maker, on the bridge. During one night, the fire consumed all the buildings from the north end of the bridge southwards, until forty-two were in ruins. Water being very scarce, and the Thames nearly frozen over, the fire continued smouldering in the cellars and underground rooms (if such there could be on a bridge) for a whole week. Wallington the Puritan, a friend of Prynne and Bastwick, speaking of this fire, said: 'All the conduits near were opened, and the pipes that carried the water through the streets were cut open, and the water swept down with brooms with help enough; but it was the will of God it should not prevail. For the three engines' (fire-engines had been only just then introduced), 'which are such excellent things that nothing that ever was devised could do so much good, yet none of them did prosper, for they were all broken, and the tide was very low that they could get no water, and the pipes that were cut yielded but littel. Some ladders were broke to the hurt of many; for several had their legges

broke, some their arms; and some their ribs, and many lost their lives.' The names of seventeen shopkeepers on the bridge, mostly in the mercery line, are recorded as among those who suffered by this fire.

The most celebrated of all fires in England, the fire of London beyond all comparison—that which, in 1666, filled up the cup of horror which had almost overflowed during the plague-year of 1665—did not immediately touch the south side of the river. It was only in a secondary way that Southwark was a spectator of the scene. Evelyn, in his *Diary*, describes in vivid language what he saw when he crossed the river to Bankside (near the great bridge for the Cannon Street Station, now building for the South-eastern Railway) some hours after the fire commenced: 'The whole city was in dreadful flames near the water-side; all the houses from the bridge, all Thames Street, and upwards towards Cheapside, and down to the Three Cranes, were now consumed. The fire having continued all this night (if I may call that night which was as light as day for ten miles round about) after a dreadful manner, conspiring with a fierce east wind in a very dry season, I went on foot to the same place, and saw the whole south part of the city burning. Here we saw the Thames crowded with goods, floating all the barges and boats laden with what some had time and courage to save, as on the other side the carts carrying out to the fields, which for many miles were strewed with movables of all sorts, and tents erecting to shelter both people and what goods they could get away. Oh, the miserable and calamitous spectacle! such as haply the world hath not seen since the foundation of it, nor can be outdone till the universal conflagration thereof! All the sky was of fiery aspect, like the top of a burning oven, and the light seen above forty miles thereabout. God grant mine eyes may never behold the like, who now saw above ten thousand houses all in one flame! The noise and crackling, and thunder of impetuous flames, the shrieking of women and children, the hurry of people, the fall of towers, houses, and churches, was like hideous storm, and the air all about so hot and inflamed that at the last one was not able to approach it, so that they were forced to stand still and let the flames burn on, which they did for near two miles in length and one in breadth. The clouds also of smoke were dismal, and reached, upon computation, near fifty miles in length. Thus I left it this afternoon burning, a resemblance of Sodom or the last day.' Such was the fire which swept away everything that covered 436 acres of ground, including 89 churches and 13,200 houses.

There was a fire in Southwark in 1676, that brought down sixty houses; and another in 1725, commencing near St Olave's Church, which also swept away sixty houses, and reduced to a tottering state the 'Traitors' Gate,' which in those days spanned the south end of London Bridge. It was, however, towards the end of the last century that the great warehouses began to be built, which have fed the flames so profusely. The year 1780 witnessed a fire at Horsleydown that speedily lapped in its embrace granaries, provision-warehouses, ships' stores, boat-houses, cordage and sails, lighters and barges, and a ship under repair. Eleven years afterwards, in 1791, Rotherhithe lost several vessels and sixty houses by a great conflagration. In 1814, a fire broke out at some mustard-mills near St Saviour's Church, on a Sunday evening.

London Bridge was thronged with spectators, in carriages and on foot; and as night came on, they saw all the buildings on the north bank of the river magnificently lighted up by the reflection of flames from an extensive range of warehouses; and boats so thickly studded the river that 'the water could hardly be seen.' Corn, flour, and hops were destroyed to a vast amount. In 1820, nearly sixty houses, besides warehouses and vessels, were consumed during a great fire at Rotherhithe. The year 1836 was marked by that vast conflagration at Fenning's Wharf, not far from London Bridge, which consumed warehouses and merchandise to the value of £250,000. Then came, in 1851, a fire that swept away £50,000 worth of property in Tooley Street; and afterwards, in the same year, another that figured for £150,000. In these fires, hops (Southwark is the head-quarters of the hop-trade) were consumed in enormous quantity; and in one of them, at Humphrey's Wharf, it was only by flooding whole acres of premises for several days that the flames could be kept away from enormous stores of butter, cheese, and bacon. In 1852, a fire took place at Rotherhithe, the flames from which, fed by corn, casks, boats, and timber, sent up a glare into the sky to such a height as to be visible all the way from Gravesend in the east to Windsor in the west. A rope-factory at Bermondsey in 1854; four large warehouses at Bermondsey Wall in 1855; a provision dépôt at Rotherhithe in 1856, containing millions of bottles of ale, wine, and beer, intended for the Crimea; a flour-mill at Shad Thames, containing £100,000 of stock, in the same year; cooperages and paper-warehouses in 1860—all went. At the Bermondsey Wall fire in 1854, after thousands of quarters of corn had been burnt, five thousand barrels of tar, tallow, and oil burst, smoked, flamed, and flew out into the street in a liquid blaze. At Hartley's Wharf, in 1860, a two-days' fire burned two great blocks of warehouses crammed with grain, hops, bacon, cheese, butter, oil, lard, seeds, feathers, jute, and wool to the value of £200,000.

Those who saw the great fire of 1861 will not soon forget it. It was by far the most disastrous, in regard to the value of the property destroyed, ever known in Southwark, and had had few parallels in any part of the metropolis since the great event of Charles II.'s reign. It was near the old place, St Olave's Church—Cotton's Wharf by name, although owned by Messrs Scovell. How it burst out at four in the afternoon on the longest day; how it spread to eight large warehouses in two hours; how the firemen in vain attempted to stop it; how it leaped across an opening, and caught another stack of warehouses—this was known half over London before bedtime. And then Mr Braidwood, the able and courageous man who had formed the Fire Brigade thirty years before, and had managed it ever since: how deep was the regret when the news spread abroad that a tottering wall had fallen upon him and killed him! And what a night followed! London Bridge was choked with spectators all night; the avenues by the side of the steam-packet piers, Billingsgate, and the Custom-house, on the other side of the river, were equally thronged; and a heat and smoke, accompanied by that strange mixture of odours which we have already noticed, almost insufferable, were wafted across the river. The Dépôt Wharf caught, then Chamberlain's Wharf, and then Messrs Irons' granary. Then, several schooners laden with oil, tar, and tallow

were seized hold of by the flames; and in a few minutes the Thames was literally on fire along a space a quarter of a mile long by a hundred yards broad, hemming in and greatly imperiling some boatmen who ventured thither to see what they could pick up. The wind saved old St Olave's Church from ignition; but the same wind carried destruction successively to Kay's Wharf, Daisy's Wharf, Ellis's Wharf, and Humphrey's Wharf. By three o'clock on Sunday morning, the firemen, who fought on bravely though deprived of their chief, were able to mark out the probable limit beyond which the flames would not extend; and they were right. But, oh, the time that it took to consume all that those valuable warehouses contained! There were thousands of casks of tallow; and the inflammable substance, melting out from the casks, flowed into cellars, lanes, and open quadrangles, where some of it was speedily licked up by the flames, while the rest was deluged with water from the powerful steam fire-engines. After seven days of burning, a new explosion and a new burst of flame shewed how far the conflagration was from being ended. There was a depth of two feet of melted palm-oil and tallow, covering the whole floor of nine vaults, each a hundred feet long by twenty wide; and this immense quantity all went to feed the flames. Before the last heap of ruin was cold, there had been consumed 23,000 bales of cotton, 300 tuns of olive-oil, 30,000 packages of tea, 2000 packages of bacon, 900 tons of sugar, 400 cases of castor-oil, 9000 casks of tallow (this was the terrible item), and stores of other merchandise almost incredible in quantity. The total loss did not fall far short of £2,000,000. And yet all has been rebuilt—larger, higher, stronger, handsomer, and fuller than ever.

After this wonderful fire, all else would seem insignificant; yet there have been many great ones since. There was the fire at Davis's Wharf, Horsleydown, in the same year (1861). There was the fire at Dockhead in 1863, which enclosed in its embrace vast stores of jute, corn, flour, and saltpetre. A strong wind not only fanned many hundred tons of saltpetre into flame, but wafted the sparks and lurid smoke from it in a fearful way. Under other circumstances, such a thing would be a splendid display of fireworks, for there was a combination of brilliant flames, loud explosions, and volumes of smoke. As newspaper readers very well know, this present year, 1865, has been a busy one for the firemen in the Plutonic region extending from London Bridge to Rotherhithe Wall. The fire at Beal's Wharf in October last was only one among many, but it was the greatest of the year. The building was eight or nine stories in height, and had been built in 1856 with every regard to fireproof construction. Yet did the flames dance along from one range of stores to another, until merchandise had been consumed to the value of one hundred and eighty thousand pounds. The upper floors contained thousands of chests of tea, while the lower stories and the vaults were crammed with seeds and colonial produce. There is said to have been a million pounds of tea burned or injured; and the destruction of coriander-seed, caraway-seed, liquorice, Malacca and partridge canes, and other commodities was such as to occasion a rise in the market-price of those articles. There was a warehouse adjoining containing merchandise to the value of a quarter of a million sterling; and it was only by a brave battle against

flame and smoke that Captain Shaw and his men could prevent the extension of the fire thither.

One of the most noticeable features in connection with these great fires is the power which the insurance companies manifest of bearing up against the consequences. A loss varying from one hundred thousand to two millions of pounds suddenly occurs, and those on whom the blow mainly falls scarcely stagger under it. They make what they can of the salvage or damaged wreck of buildings and merchandise, and give cheques on their bankers for the remainder. The truth is, that the companies rather like these things once now and then. A rush of new insurers always comes immediately after a great fire, largely increasing the receipt of steady annual premiums, and more than compensating for the sudden outlay in reference to the fire that produced the rush. But a great deal depends upon the proviso 'once now and then.' This Tooley Street is a source of anxiety to the companies. They do not like to charge premiums so very high as to discourage insurance; and yet they are liable any day to a series of catastrophes so simultaneous and overwhelming as possibly to bring down even the 'Sun' and the 'Phoenix.' The surveyors of the several companies, it is understood, possess ground-plans of all these vast ranges of granaries, warehouses, wharfs, and quays, with the structures of iron, brick, stone, and wood; and no doubt the premium of insurance is made to depend on the local characteristics in each case.

#### A BLUECOAT BOY'S STORY.

In the Christmas Number of *Chamber's Journal*, I read a story of the Lotteries, which brings to my mind a curious personal experience of those old times; for I am an old man myself, and lived in them. Nothing which 'Sir Joshua' is made to say in reprobation of the gambling and reckless spirit which the institution of state lotteries engendered among all classes, too strongly describes the actual harm they effected. When such enormous prizes as forty thousand pounds were to be got, and the end of the Drawing came near, the Town grew almost frantic with excitement. I dare say the business was managed fairly; but it was certainly strange how those enormous prizes did always remain until almost the very last, as though they had been in solid gold, and their very weight had kept them down in the wheel. I cannot cite a single instance of the chief prize being drawn during the first day. In 1798, the *last drawn blank* was entitled by the conditions of the lottery to twenty thousand pounds, and during the closing-day, tickets could scarcely be got at any price, while even the night before they fetched one hundred and twenty guineas. Once only, thirty years before that, were tickets ever sold at *less* than the original price (thirteen pounds) paid for them to government.

So thoroughly national had the passion for this sort of gambling long since become, that in 1769 it was held by the government to be a very bad sign of disaffection in the American colonists that they, who had been used to take no less than one-eighth of the whole, declined to purchase any lottery-tickets; and their refusal did unquestionably arise

from their dislike to the mother-country. Even pious folks were bitten by this spirit of gambling; and I remember a lady of great respectability and benevolence, whose husband had made her a present of a lottery-ticket, actually causing prayers to be offered up in a church in Holborn for her good-luck. It is to be hoped that when the clergyman read out from his pulpit, 'The petitions of this congregation are desired for the success of a person engaged in a new undertaking'—which was the form of words he used—that he did not know what they were to pray for.

Delivered up, indeed, as people were to this evil Spirit of speculation, they wished to secure themselves as much as possible from the consequences of their own folly; nothing, therefore, was more common than to *insure* a lottery-ticket, and there were a dozen offices of repute and respectability where this could be done. Out of this custom the curious circumstance arose which I have taken up my pen to tell. I dare say that even my younger readers are aware how the public drawing of lotteries was conducted; they have probably seen prints of the great Wheel of Fortune, and of the two Bluecoat boys, one of whom pulled out the numbers, and the other, at the other wheel, the corresponding blanks or prizes. I was a Bluecoat boy at that time myself, and although I never was employed in this particular office—and a very shameful thing it surely was to make Youth the pander to this shameful national vice\*—I had an acquaintance of the name of Thornhill who was. He was a nice-looking young fellow enough, but had not much brains, and what he had were almost turned by the notoriety of his appointment. He thought himself quite a great man because he had been chosen to draw in the lottery, and enjoyed the publicity of the situation immensely. It was no great task to put your hand in wheel and bring out a number, which it was *his* part of the matter to do—though to bring out the prizes, which was the other boy's work, was exciting enough, since it commanded the deepest attention from all present, and evoked sometimes quite a tempest of feeling—but Thornhill thought otherwise, and magnified both his office and himself. It was said that I envied him, because he had obtained the situation (which had its little perquisites) instead of myself, but I did nothing of the kind; at all events, nobody envied him what came of it. He was returning home one afternoon at the close of his first day's Drawing, when he was accosted by a person of gentlemanly appearance, who informed him that he was a friend of his father's, and mentioned certain circumstances which induced the boy to believe that such was the case. As he also asked him to dinner, and gave him a very good one, I dare say he did not need much persuasion to credit the assertion; but

\* This was the more singular, as at Oxford and Cambridge—notwithstanding that the smaller lotteries were entitled 'little goes'—the government would not allow any office for the sale of tickets to exist.

anyhow, they soon got to be friends. Over their wine they began talking of the lottery, upon which poor Thornie, as we used to call him, was very eloquent, I have no doubt, and did not lack encouragement upon the part of his entertainer.

"I suppose," said his host, "they look very sharp after you at that wheel, so that it would be impossible to take two tickets out at a time?"

"Well, it would be difficult, but not impossible; and besides, what would be the good of it?"

"Very true, my boy," said the gentleman. "No improper use could, of course, be made of it; but still I would very much like to see a lottery-ticket that is now in that great wheel, and before it is drawn. I will give you ten pounds if you will put such a one into my hand to-morrow evening, and I solemnly promise you shall have it back within twenty-four hours."

"It would not be stealing?" returned Thornhill hesitatingly, to whom ten pounds seemed a Prize in itself.

"Certainly not," replied the other, "for its absence cannot possibly hurt anybody, and you have only to put it back just as you pulled it out. Who will ever know anything about it except our two selves?"

The next afternoon, having been persuaded by these arguments, and by the ten golden reasons which this liberal gentleman handed over to him, Thornhill pulled out from the wheel two tickets instead of one, and managed, unobserved, to place the second in his sleeve while the clerk was calling out the number of the other. The ticket secreted was 21,481—as you may read in the *Annual Register*, for the thing became a public matter afterwards—and this he presented, according to agreement, to the friend of his father. This occurred on Wednesday night, and on the ensuing evening, he received it back again.

"Now," said his host, "you have not quite earned your money yet; but what I require you to do is not more difficult than what you have already done. I shall be in the gallery to-morrow while the Drawing is going on, and when I nod at you—thus—but not before, replace this ticket in the wheel, only be sure you do not leave go of it, but draw it forth exactly as if you had just taken it out in the usual way. That is all that I have to ask, and you shall receive five guineas more for your trouble."

On the Friday morning, Thornhill kept his eye upon his friend in the gallery, and when he gave the sign agreed upon, after the drawing had gone on for an hour or so, out came No. 21,481, which, I believe, was a blank. It really seemed as if no harm could possibly have been done to anybody, or any object gained, by the transaction. But for all that, I well remember how wretchedly ill poor Thornie looked throughout the previous day, and how silent he was concerning his own part in the proceedings, about which he was usually very boastful, telling us how the ladies in the gallery had smiled upon him, and bade him bring them luck, and how the Lord Mayor himself had patted his curly head. He knew that he had done something very wrong, even if no mischief should actually come of it, and, as he afterwards confessed, he was racked by the idea, that the friend of his family might not return him the ticket, in which case, exposure and disgrace were certain; and they came about, although not quite in that way.

Upon the Thursday, when the ticket was not in

the wheel, the man who had given the bribe went about to all the offices insuring the ticket against being drawn on the next day; and it was probably only his greediness which betrayed this promising scheme of fraud, and prevented it from being carried out again and again. The fellow had insured in one office no less than six times over, and his pertinacity so excited the suspicions of the office-keepers, that when the ticket was drawn, as I have stated, both Thornhill and himself were arrested, and the former was easily induced to reveal all the circumstances. Neither he nor his tempter was punished judicially, for as it happened, the particular offence had not been contemplated by the law. But I shall never forget poor Thornie's face when he was publicly expelled from our school, nor the face of his widowed mother, who had come to intercede with the authorities, in vain, on behalf of her only son.

#### THE MONTH: SCIENCE AND ARTS.

A GREAT scheme of metropolitan improvements has been promulgated by the Metropolitan Board of Works, and if they can only get leave to carry it out, the benefit and adornment to London will be such as few Londoners could have even hoped for ten years ago. Middle Row, Holborn, that long-denounced obstruction, is doomed at last; and on the east, west, north, and south of our great city, the leading thoroughfares are to be improved. Park Lane, another long-standing grievance, is to be widened to a width of seventy feet through its whole extent, if parliament will agree to give up a narrow strip of Hyde Park for part of the distance. The new street from Blackfriars to the Mansion House is to be commenced; and leave is to be asked to open two others: one from Charing Cross traversing the site of Northumberland House down to the Thames Embankment; another from the corner of Wellington Street, Strand, down to the Embankment at the foot of Cecil Street. These are grand projects; and if the new House of Commons sanction the opening of these thoroughfares, they will deserve the thanks of their constituents. Other improvements will be made along the line of the Embankment: some of the small wharfs and shabby buildings will be abolished; a magnificent crescent is to be built between Charing Cross and Waterloo Bridge, and here and there, where the width is great enough, belts and clumps of trees are to be planted. When all this shall have been accomplished, a voyage down the Thames from Vauxhall to London Bridge will afford a really fine spectacle. But let us hope that when the Board of Works shall have finished the streets, they (the streets) shall not be liable to excavation and disturbance, by any unscrupulous Company whatsoever, as our streets are at present.

After reading this, it is particularly gratifying to have an assurance that our other great metropolitan authority—the City Corporation—are going to take measures for improving and rendering safe the street-traffic of the City. It is quite time that the

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reproach of that terrible fact, that more people are killed every week in the streets of London than on all the railways, should be removed. Like the Board of Works, the Corporation will have to get leave from parliament; but that accomplished, they will not allow slow and heavy vehicles to enter busy streets during the busiest hours, and brewers and wagoners will no longer have the power to block a whole thoroughfare just for their own convenience. Regulations will be enforced as to the competency of drivers, the stopping of vehicles, and the freaks of cabs. Besides which, light bridges are to be built across or tunnels made beneath the most crowded streets, for the convenience of pedestrians. It has, however, so long been the rule to deny consideration to bipeds in the City, and reserve it all for the four-footed creatures, that we can hardly believe the safety-crossings comprehended in the Corporation scheme will ever be constructed. But that something of the kind is required in a city through which sixty thousand vehicles pass every working-day, who shall deny?

Among other metropolitan matters worth a word of notice, one is, that the works are in progress for the pneumatic railway which is to cross from Whitehall beneath the bed of the Thames; and that a refreshment-room has at last been opened in the British Museum. Visitors who have suffered from headache through want of a lunch while wandering about the galleries of that bewildering establishment, will appreciate the advantage now conceded, especially as it is promised that the refreshments shall be good, and moderate in price. Another matter is, that a school is to be founded somewhere in the City, at which a good commercial education shall be obtainable for £4 a year. A fund of £100,000 is to be raised for the purpose, towards which some twenty persons have already promised £1000 each. At this school, reading, writing, and arithmetic are to be prime subjects of instruction, because it is found in practice that in these most of the youths who are put forward for places in the City are lamentably deficient. In fact, it is an increasing complaint among commercial men, that they cannot get young clerks able to write a fair hand or spell correctly.

The chemical toys known as 'Pharaoh's Serpents' have been so widely taken up, that we may do good service by mentioning what was said concerning them at a recent meeting of the Manchester Literary and Philosophical Society, namely, that all mercury vapour is more or less poisonous, and that injurious effects have followed from the burning of the Serpents in close rooms. Professor Roscoe stated that, in his opinion, the inhalation of even the smallest quantity of mercury vapour should be carefully avoided. But a few months ago, two young German chemists were poisoned, while working in a laboratory in London, by absorption through the lungs or skin of the vapour of a mercury compound which they were engaged in preparing. One of the two died at the

end of three days in a state of mania, and the other has become a hopeless idiot. Hence it will be understood that mercury vapour is not a thing to be trifled with.

Two instruments have recently been invented which are likely to become useful in physiological investigations. One, an improved Hæmodynamometer, by Mr W. H. Griffiths of Dublin, is intended to measure the rate at which blood flows through the blood-vessels—a question often of high importance in vital statistics. We remember that an attempt was once made to ascertain the rate by injection into an artery at one side of a horse's neck, and noting the time that elapsed before it appeared at an incision on the opposite side. An account of Mr Griffiths' improvement has been read before the Royal Irish Academy, and will be published in their *Proceedings*. The other instrument is the contrivance of Professor Donders of Utrecht: it records the beats of the pulse, of the heart, and the respiratory movements simultaneously in four parallel columns, so that they may be seen and compared at a glance. As yet, we have no detailed description of the instrument, but we understand that it operates by means of electricity.

There is talk at Swansea of utilising the smoke which has so long poisoned the atmosphere of that copper-smelting town. Two methods are said to have been proposed. In one of them, the smoke will be made to pass through various processes, until at last it becomes condensed into sulphuric acid. What a happy prospect this for the health of the inhabitants, and the vigour and beauty of vegetation! especially as Swansea has become the smelting-place for copper from all parts of the kingdom, not to say from all parts of the world. Chili—the victim of dishonest Spain—sent us last year 47,000 tons of this valuable metal.

A small item of news has reached us from Australia, which is worth record as marking a beginning of manufacture which may have important results. The first piece of cloth ever woven in Victoria has been produced at Hamilton; and the first paper-mill (with machinery) has been set up on the river Yarra. Perhaps the colony is ambitious enough to hope to, some day, supply the 'old country' with cloth and paper.

Messrs Jackson and Ott of the United States have patented a method of extracting gold from the ore, which is described as a highly advantageous improvement over the process usually practised. That process, as most readers know, consists in amalgamation, or the use of quicksilver to separate the gold; but it is one open to serious objections, one of which is its great cost. Some years ago, Professor Plattner, a German, discovered that he could extract the gold by means of chlorine; the results of which were immediately important, for great hills of waste at the mines in Silesia and Hungary were treated by his process with considerable profit. The chlorine searched out minute particles of gold in the long-accumulated rubbish, that could not have been profitably extracted by any other means. Plattner saw that

his process was susceptible of improvements, but died before he could accomplish them. The improvements have now been effected by the above-named operators: by a process of desulphurising the ore, they save one half in the amount of gas required; and by substituting hypo-chlorous acid for the chlorine gas, they can treat different kinds of ore with even greater economy than by Plattner's process. The final extraction of the gold is effected either by centrifugal power, or by a hydraulic press and water; and the advantages of the new process appear to be, that the cost of the substances used therein, and the loss in quantity, are not so great as with quicksilver; that the expense of fuel for distillation is not required; that as pure gold is precipitated, no refining is needed; and that it is not at all injurious to the health of the workmen.

Professor Bourlot of Colmar, in his meteorological studies, thinks he has discovered the causes of certain atmospheric phenomena. In his view, the causes are internal—that is, taking it for granted that the central mass of the globe is fluid fire, the vapour therefrom acting against the inner surface of the earth's crust by which it is enclosed, will, by exciting powerful electric currents, produce sudden changes above the surface. Another effect of the internal pressure will be continual changes of level on the outer surface; so much so, that, from Professor Bourlot's point of view, there is no such thing as firm land—*terra firma*—be it continent or island. He thinks it may be possible to prove the existence of the plutonian sea; but until that be done, he will find it difficult to establish his theory of interior tempests and their effects.

At a recent meeting of the Horological Institute, the chairman, in opening a discussion on the comparative merits of English and foreign watches, remarked that excellence of finish and knowledge of principles, as regards watchwork, are less appreciated in this country, even by the educated classes, than they ought to be. Those classes, he continued, 'require their special attention to be directed to this matter in order that their tastes may be cultivated to such a degree that they may derive pleasure from high mechanical correctness.' He noticed further a deficiency of education among those who are to be our watchmakers in the future, and expressed his wish 'that apprentices of a more educated class were taken into the trade, who could understand the principles of watchwork, instead of errand-boys with no previous culture, being bound too often for the master's special advantage, without reference to the boy's understanding of his art.' From this it would appear that want of knowledge, and consequently of appreciation of excellence, pervades all classes alike, which is perhaps one reason why so many persons suffer themselves to be imposed on by the advertising quacks of the watch-trade. The education that is to alter this state of things for the better must be necessarily slow.

Let us add to the foregoing, that in the first seven months of the past year (January—July) there were imported into England, free of duty, 129,082 clocks, and 86,114 watches.

#### MY WOLD FIELD.

I scorn the man who only sees  
What nature shews his eyes,  
Who cannot, spurning rocks and trees,  
On nobler pinions rise!

His vacant mind, made once divine,  
Grown base 'mong purest pleasures,  
Or starves in plenty, as will pine  
The miser with his treasures.

'Tis true you field is bleak and drear—  
My Wold Field gently swelling—  
You call it tame? to me 'tis dear;  
Nay, more, 'tis Fancy's dwelling!

'Tis wide as Thought's domain; the breeze  
Sweeps o'er it, health bestowing,  
Ruffling Spring's tender grass, like seas  
That heave, soft zephyrs blowing.

Pale sunshine floats in glittering sheets  
By day o'er bent and thistle;  
The lamb in daisies couched there bleats,  
Larks lost in cloudlets whistle.

All night, the moonbeams far and wide  
Fleck its low hills, small valleys;  
The beck that streams past or beside  
With blue cress-flowers dallies.

Sly jackdaws hop, or sea-mews wheel  
Amongst the purple shadows  
That on my leas are born, and steal  
Athwart my neighbours' meadows.

And e'en in autumn's roughest day,  
What time the clouds are flying,  
Hues o'er my thymy hills will play  
With the cloud-splendours vying.

Here see I Alpine glories piled  
At sunset in the west;  
With tropic loveliness beguiled,  
At noon tide here I rest.

Imagination aye befriends  
The man she loves, who woos  
Her fickle moods; and Fancy lends  
Rich charms to humblest views.

Contented souls great joys will find  
That ne'er to others come;  
And though no crags may mock the wind,  
Still beauty blesses home.

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